Remarks

Claims 1 and 3-20 are pending in the subject application. Applicant gratefully acknowledges the Examiner's indication that claims 3-13 and 15-20 are objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form. Favorable considcration of the pending claims is respectfully requested.

Submitted herewith is an Information Disclosure Statement (IDS), accompanied by the form PTO/SB/08 and copies of the references listed therein. Applicant respectfully requests that the references listed on the form PTO/SB/08 be considered and made of record in the subject application.

Claims 1 and 14 are rejected under 35 USC §102(b) as anticipated by Wittwer *et al.* (U.S. Patent No. 6,174,670). The Examiner asserts that the Wittwer *et al.* patent discloses a method of identifying the sequence of a nucleic acid using PCR and fluorescence signals. Applicant respectfully traverses this ground of rejection.

Applicant respectfully asserts that the Wittwer *et al.* patent does not teach or suggest Applicant's claimed invention. The Wittwer *et al.* patent is directed to the monitoring of PCR amplifications, in particular, real-time monitoring of PCR amplifications. The various techniques disclosed by the Wittwer *et al.* patent all rely on the detection of hybridization using labelled probes. In particular, the sequence of a target polynucleotide is determined by the hybridization of two labelled probes to a target polynucleotide, followed by the detection of an interaction between the probes. Applicant respectfully asserts that the Wittwer *et al.* patent does not teach or suggest a method of sequencing a target polynucleotide by measuring the time taken for the polymerase to bind to and subsequently dissociate from the target polynucleotide.

Applicant notes that claims 1 and 14 specifically recite, as an element of the claimed method, the step of measuring the time taken for polymerase binding and subsequent dissociation from the target polynucleotide. The Examiner's grounds for the rejcction appears to be based on the penultimate paragraph in column 4 of the Wittwer *et al.* patent, which recites the production of a "3-dimensional spiral" and a "fluorescence vs. time plot." Applicant respectfully asserts that this disclosure in the Wittwer *et al.* patent does not teach or suggest Applicant's claimed method of

sequencing, wherein a measurement of the time taken for the polymerase to bind to and subsequently dissociate from the target polynucleotide is used to determine whether or not a nucleotide is incorporated onto the target polynucleotide.

The Wittwer *et al.* patent teaches only conventional hybridization techniques and does not teach or suggest Applicant's surprising discovery that monitoring the time taken for a polymerase to bind to and subsequently dissociate from a target polynucleotide allows the sequence of the target to be determined. The method of the Wittwer *et al.* patent cannot be used to sequence a target of unknown sequence, as their method requires two oligonucleotide probes that must hybridize to adjacent target sequences. The "sequencing" method of the Wittwer *et al.* patent is therefore useful only to confirm *(or* deny) the presence of a suspected sequence, for example a PCR product, in a reaction mix. This is entirely different from Applicant's claimed method. Applicant's claimed invention allows any target polynucleotide sequence to be determined by monitoring the time it takes for the polymerase enzyme to bind to and dissociate from the target polynucleotide. Applicant's claimed invention provides an elegant, improved sequencing method utilizing an entirely different concept to the prior art method(s). If the Examiner maintains in a subsequent Action that the Wittwer *et al.* patent teaches a sequencing method comprising a step of measuring the time taken for a polymerase to bind to and subsequently dissociate from a target polynucleotide, then Applicant respectfully requests that the Examiner point out with specificity where such disclosure can be found in the Wittwer *et al.* patent.

As the Examiner is aware, in order to anticipate, a single reference must disclose within the four corners of the document each and every element and limitation contained in the rejected claim. *Scripps Clinic & Research Foundation v. Genentech Inc.*, 18 USPQ2d 1001, 1010 (Fed. Cir. 1991). As discussed above, the Wittwer *et al.* patent fails to teach or suggest each and every element of Applicant's claimed method. Accordingly, reconsideration and withdrawal of the rejection under 35 USC §102(b) is respectfully requested.

In view of the foregoing remarks, Applicant believes that the currently pending claims are in condition for allowance, and such action is respectfully requested.

The Commissioner is hereby authorized to charge any fees under 37 CFR §§1.16 or 1.17 as required by this paper to Deposit Account 19-0065.

Applicant invites the Examiner to call the undersigned if clarification is needed on any of this response, or if the Examiner believes a telephonic interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

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DRP/mv
Attachments: Information Disclosure Statement; form PTO/SB/08; references cited